

# BULK CORE

replacement for  
DEC® RC-11 and RF-11  
fixed-head disk systems

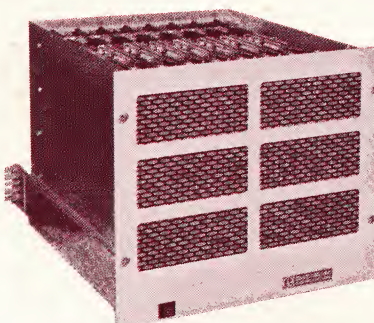
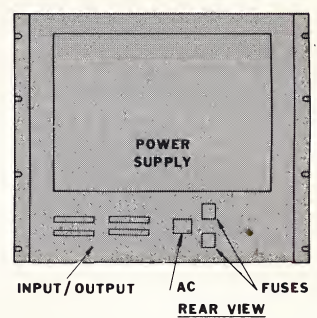
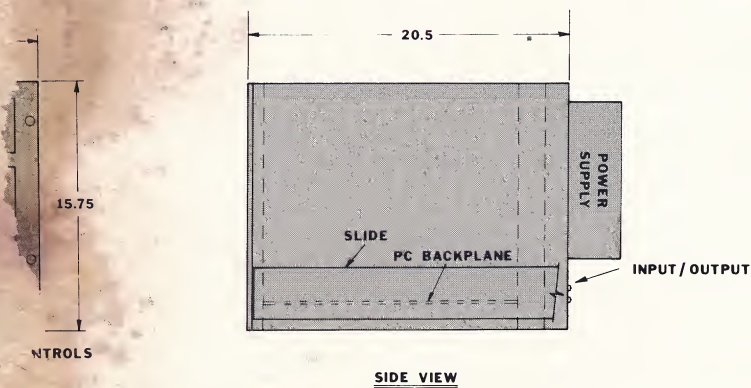
## Specifications

Capacity.....	128K x 18
Transfer rate.....	1024K x 18
Access time.....	1.5 $\mu$ sec/word
Transfer rate.....	750 nanoseconds
Transfer rate.....	15%
Weight.....	70 lbs. + 9.5 lbs./128K words
Operating temperatures.....	0°C to 55°C
Humidity.....	to 95% without condensation
Power supply.....	115 VAC or 220 VAC
Power supply.....	8 AMPS AC Max with 115 VAC
Power supply.....	4 AMPS AC Max with 220 VAC

## Part Numbers:

ITEM	P/N
BC-201 Chassis with BCI/201, Power Supply, and Interface Cable .....	62815
BC-202 Chassis with BCI/202, Power Supply, and Interface Cable .....	62817
128K x 18 DR-128 BULK CORE Module .....	62802
BULK CORE System Interface Cable .....	61111
Bus Terminator.....	61106
Internal Power Supply .....	60055
BCI Extender.....	62827
DR-128 Extender .....	62828

MODUL  
SYSTEM



PRINCETON-HIGHTSTOWN ROAD  
CRANBURY, NEW JERSEY 08512  
TEL: 609-799-0071 TWX: 510-685-2542

DBC/1677/20M



MR80

# BULK CORE

replacement for  
DEC® RC-11 and RF-11  
fixed-head disk systems

Dataram's BULK CORE memory system offers PDP®-11 users an all-electronic replacement for Digital Equipment's RC-11/RS-64 and RF-11/RS-11 Fixed-Head Disk (FHD) Systems. Dataram's BC-201 BULK CORE system emulates the RC-11/RS-64 Disk System, and its BC-202 BULK CORE system emulates the RF-11/RS-11. Dataram's BULK CORE system is completely hardware and software transparent to the host PDP-11 minicomputer.

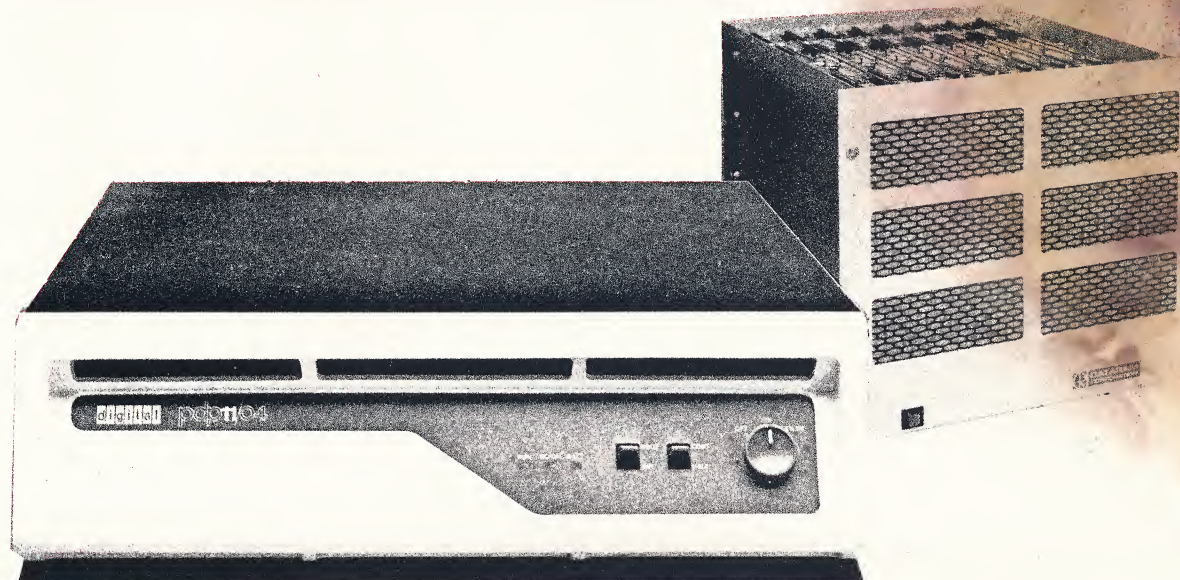
The heart of the BC-201 and BC-202 BULK CORE systems is Dataram's 128K x 18 DR-128 BULK CORE module. A maximum of eight DR-128 modules are packaged in a 15¾" chassis which also contains the necessary BULK CORE Interface (BCI) board, power supply, and fan assembly. The BC-201 and BC-202 are provided with the necessary cable assemblies for UNIBUS® interfacing. The BCI/201 and BCI/202, in addition to providing the necessary logic to emulate the corresponding FHD interface, also contain the necessary logic for parity operation and "off-line" testing.

If you are using, or are planning to use, one of DEC's popular PDP-11 minicomputers, and if you are interested in high reliability and high performance, contact Dataram to get more information on their exciting BC-201 and BC-202 BULK CORE systems. We think you'll be surprised.

PDP, DEC, and UNIBUS are registered trademarks of Digital Equipment Corporation.

## Features:

- Access Time 10,000 Times Faster
- Zero Error Rate ■ Built-in "Off-Line" Testing
- and Software Transparent ■ LED Indicators
- 128K Modularity ■ Non-Volatile ■ 100,000 Hours
- MTBF/Low MTTR ■ Parity Check ■ UNIBUS Interfacing
- 0° to 55°C Operation ■ 1 Megawatt Power Consumption
- 15¾"





## BULK CORE AND BULK SEMI SYSTEMS

MINICOMPUTER	EMULATION	MAXIMUM ADDRESSABLE CAPACITY	DATARAM BULK CORE					DATARAM BULK SEMI				
			SYSTEM	DUAL PORT OPTION	MAXIMUM CAPACITY	QTY. 15 1/2" CHASSIS FOR MAX. CAPACITY	QTY. 256KB DR-128's FOR MAX. CAPACITY	SYSTEM	DUAL PORT OPTION	MAXIMUM CAPACITY	QTY. 15 1/2" CHASSIS FOR MAX. CAPACITY	QTY. 512KB DR-129's FOR MAX. CAPACITY
DIGITAL EQUIPMENT CORPORATION PDP-11 SERIES	RF-11	4MB	BC-202	YES	2MB	1	8	BS-202	YES	4MB	1	8
			BC-202 WITH 7" EXPANDER CHASSIS	YES	4MB	2	16					
DIGITAL EQUIPMENT CORPORATION LSI-11® AND PDP-11/03	RF-11	4MB	BC-203	YES	2MB	1	8	BS-203	YES	4MB	1	8
			BC-203 WITH 7" EXPANDER CHASSIS	YES	4MB	2	16					
DIGITAL EQUIPMENT CORPORATION PDP-11 S	RJS03/4	8MB	BC-204	YES	2MB	1	8	BS-204	YES	8MB	1	16
			BC-204 WITH 7" EXPANDER CHASSIS	YES	8MB	4	32					
DIGITAL EQUIPMENT CORPORATION PDP-15	RF-15	4MB	BC-205	NO	2MB	1	8	BS-205	NO	4MB	1	8
DIGITAL EQUIPMENT CORPORATION PDP	MAIN MEMORY BUS	4MB						BS-417	NO	4MB	1	8
	NOVADISC® 19 ROLLER	4MB	BC-301	YES	2MB	1	8	BS-301	YES	4MB	1	8
	AOS PATENTABLE 3/6065 ROLLER	8MB	BC-303	YES	8MB	4	32	BS-303	YES	8MB	1	16
	3 LINES INDEXING VIDEO C	10MB	BC-701	NO	4MB	2	16	BS-701	NO	8MB	1	16
	6065 ROLLER	4MB	BC-466	NO	4MB	2	16	BS-466	NO	4MB	1	8
	MEMORY +	4MB	DR-128	YES	4MB	2*	16					
MODC MODCC												

\*Host chassis, with controller, supplied by Modular Computer Systems, Inc.

NOTE: 7" chassis also available with the above interfaces. Fully populated 7" chassis holds two 256KB BULK CORE modules or four 512KB BULK SEMI modules.

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Eclipse, Nova and Novadisc are registered trademarks of Data General Corporation.



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CRANBURY, NEW JERSEY 08512  
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# DATARAM PRESENTS THE 8.0 MEGABYTE SOLUTION

Now you can have up to 8.0 megabytes of memory in a single 15 $\frac{3}{4}$ " chassis to meet your disk emulation and main memory requirements.

It's available today in BULK SEMI, from Dataram Corporation, the people who pioneered BULK CORE.

And because Dataram designed BULK SEMI to be compatible with its popular BULK CORE modules, you can take advantage of the wide range of existing BULK CORE controllers to use BULK SEMI as main memory or in disk emulation systems for DEC®, Data General, or Interdata minis.

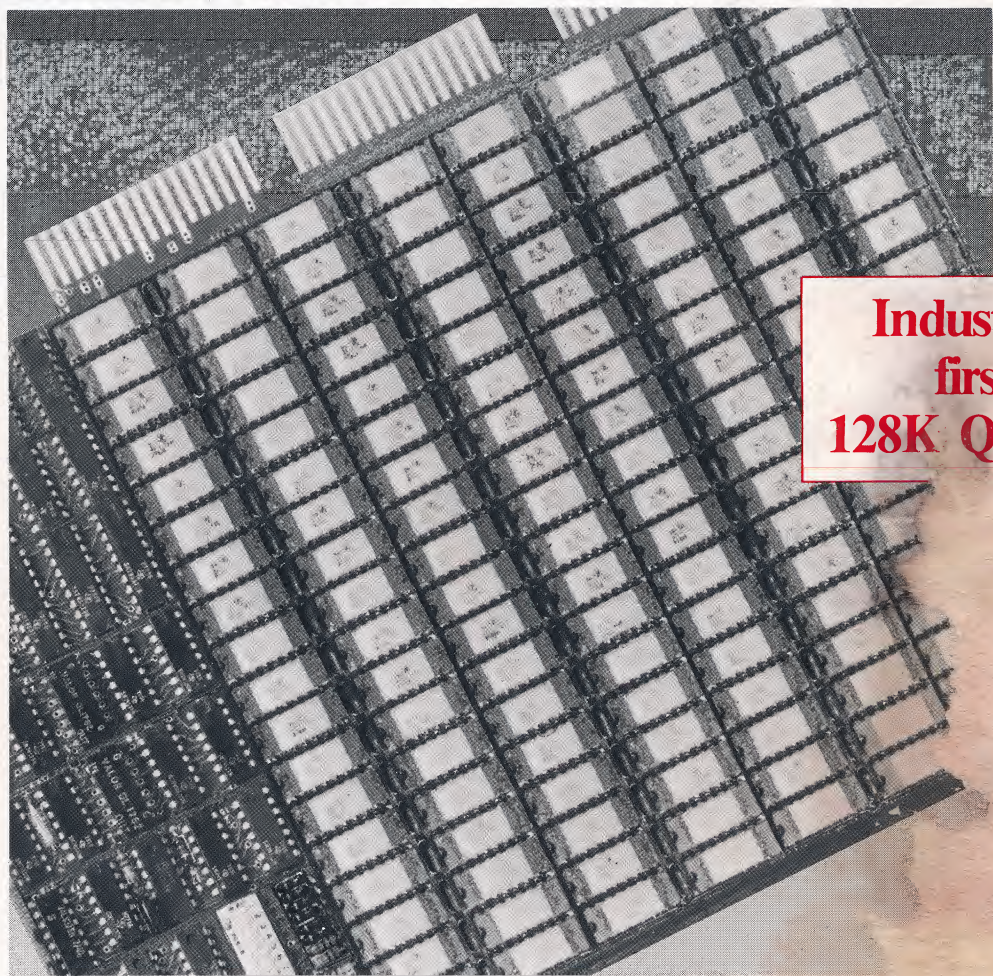
Dataram's 15 $\frac{3}{4}$ " BULK SEMI system consists of a BULK SEMI Controller board and up to 16 BULK SEMI Array boards. With each BULK SEMI Array board being 512KB, the maximum chassis capacity is 8.0 megabytes.

Error correcting is standard, as are the reliability, performance, and economy of BULK SEMI. From Dataram. And only Dataram.



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**Industry's  
first  
128K QUAD**

# 128K x 18 FOR LSI

Dataram Corporation, first to offer a 128K x 18 single-board PDP®-11 ADD-IN, has done it again.

This time with an incredible 128K x 18 semiconductor ADD-IN for DEC®'s LSI-11/23!

This industry first, the DR-113S, is packaged on a standard DEC 8½" x 10" quad board. But more than just being a "first," the DR-113S is also a "best," saving you not only space and money, but also greatly reducing overhead circuitry, optimizing MTBF, and minimizing power consumption. And the DR-113S is also available in 64K and 96K configurations.

From Dataram Corporation, the people who provide everything you need to make a big thing out of the LSI-11 —

• PDP-11/03L compatible chassis • 16K x 18 core ADD-IN  
• 32K x 18 semi ADD-IN (dual-size board) • BULK CORE/SEMI  
Disk Emulation Systems • BULK MINI • Tape and Disk  
Controllers • and even DEC-manufactured LSI-11 and  
LSI-11/23 microcomputers and other accessories.

- ☐ Please tell me more about your 128K x 18 memory for my LSI-11 compatible PDP-11.
- ☐ Please send me information on your LSI-11 compatible PDP-11.
- ☐ Please have a sales representative call me.

Name \_\_\_\_\_  
Title \_\_\_\_\_ Phone \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

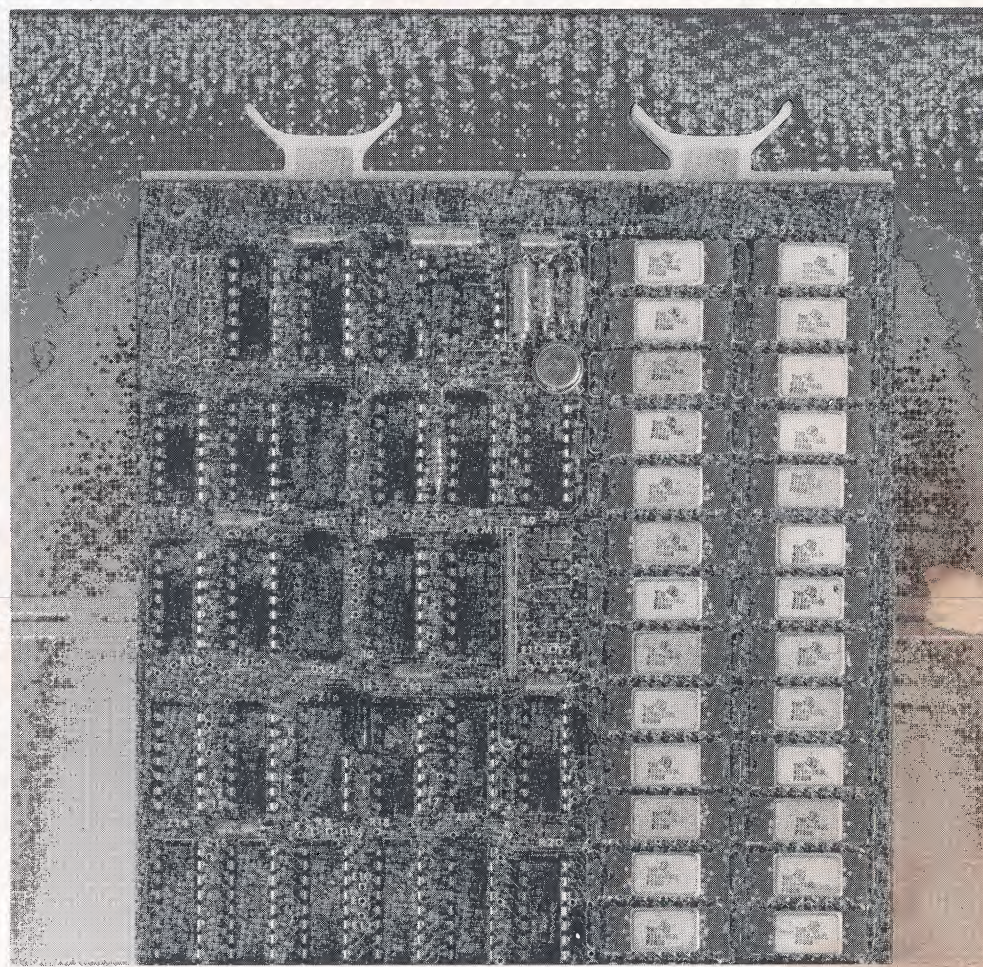
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# 32K x 18 LSI-11<sup>®</sup> ADD-IN

Dataram offers its newest idea in memory for LSI-11 microcomputers. 32K x 18 semiconductor ADD-IN memory that's right for your system. Right price. Right performance. Right now.

Using 4K or 16K semiconductor chips, Dataram's new LSI-11 ADD-IN covers the range from 8K x 16/18 to 32K x 16/18. And the system board outline conforms to DEC's standard dual-board size, enabling it to be used in either the LSI-11 or LSI-11/2.

Add to that such features as PDP-11/03 compatibility, parity, on-board refresh, provision for battery back-up, Dataram's extensive burn-in and test, and full one-year warranty, and you'll see why this new semiconductor memory from Dataram is the right answer to your LSI-11 ADD-IN needs.

## PLUS three more ways to enhance DEC's LSI-11

- 16K x 18 CORE ADD-IN
- 2.0 Megabyte BULK CORE Disk Emulation System
- 1.0 Megabyte BULK CORE MINI

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CORPORATION**

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- ☐ Please send more information on Dataram memory for my LSI-11 micro.
- ☐ Please send me information about LSI-11 compatible products.
- ☐ Please have a salesman contact me.

Name \_\_\_\_\_

Title \_\_\_\_\_ Phone \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_